

ABSTRACT OF THE DISCLOSURE

[1020] The present application describes embodiments of a neutral density color wheel filter. According to one embodiment, a neutral density color wheel includes an opaque coating over one or more color segments with randomly placed transmissive regions. The transmissive regions can be configured to substantially transmit incident light and the opaque coating can be configured to substantially block or absorb the incident light. Alternatively, the transmissive regions can be configured to substantially block or absorb the incident light and the opaque coating can be configured to substantially transmit the incident light. The color segments with opaque coating and transmissive regions substantially eliminate light recycling due to the reflection from the color wheel. The light transmission from the color wheel is independent of the optics of a display system.